

## **REMARKS**

Claims 1-6 are pending.

Descriptive support for the amendments to claim 1 can be found in the specification at page 10, lines 29-33 and Table 1; for the amendments to claim 2 can be found in page 10, lines 1-3; for the amendments to claim 3 can be found in page 10, lines 8-13 and 20-23, and for the amendments to claim 4 can be found in Examples 4 and 5.

Applicants would like to thank Examiner Boykin for courtesy extended in a telephone interview conducted on December 7, 2006, in which Examiner Boykin said that applicants could respond to the Office Action based on applicants' understanding that Examiner Acquah intended to reject claims 1-6 as anticipated by Fukui et al. (US 5,981,257); Zhang et al. (*J. Food Sci. Biotechnol.* 2002, 21: 76-79; Lee et al. (*Biotech. Bioengineering* 2000, 67: 240-244); and Chen et al. (*Appl. Microbiol. Biotechnol.* 2001, 57:50-55), rather than to reject claims 1-14 as anticipated by "Fukui et al 5,981,257; Zhang, Jin et al; Lee et al; and Zhang G. et al" because there are no claims 7-14 and no Zhang G. et al.

### **Claim Rejections -- 35 U.S.C. 102(b)**

Applicants respectfully traverse the anticipatory rejections of claims 1-6 over Fukui et al. (US 5,981,257); Zhang et al. (*J. Food Sci. Biotechnol.* 2002, 21: 76-79; Lee et al. (*Biotech. Bioengineering* 2000, 67: 240-244); and Chen et al. (*Appl. Microbiol. Biotechnol.* 2001, 57:50-55).

None of Fukui et al., Zhang et al., Lee et al. and Chen et al. discloses a method of producing a copolyester comprising at least 3-hydroxybutyric acid and hydroxyhexanoic acid as monomeric units by a microorganism, which method comprises culturing the microorganism with an oil or fat containing lauric acid in constituent fatty acids, as a carbon source, having a content of lauric acid in constituent fatty acids of 10 to 41% by weight in the oil or fat (such as palm kernel olein oil) under a condition in which phosphorus is restricted. For instance, Fukui et al., column 6, line 1, merely discloses the use of lauric acid as a carbon source, and Table 2 in column 10 merely discloses the use of olive oil, corn oil, palm oil or oleic acid as a carbon source in

production of polyester by culturing *Aeromonas caviae*. Zhang et al. merely discloses using soybean oil instead of lauric acid as the only carbon source in a method for producing poly (3-hydroxybutyrate-co-3-hydroxyhexanoate) by culturing *Aeromonas hydrophila* 4AK4 (see Abstract and Tables 1-3). Lee et al. discloses a method of producing a copolymer of 3-hydroxybutyrate and 3-hydroxyhexanoate by *Aeromonas hydrophila* with lauric acid or oleic acid as the carbon source (see Abstract). Chen et al. discloses a method of producing poly (3-hydroxybutyrate-co-3-hydroxyhexanoate) by culturing *Aeromonas hydrophila* 4AK4 using glucose as a carbon source with an addition of lauric acid under phosphorus limitation (see Abstract). Therefore, claims 1-6 are novel over the cited prior art. In light of at least this reason, withdrawal of the anticipatory rejections is requested.

In addition, applicants note that the oil or fat containing lauric acid in constituent fatty acids at the low amount as recited in the claims is different from an oil or fat such as lauric acid being solid at 30° C in that the oil or fat containing lauric acid in constituent fatty acids at the content as recited in the claims is in a liquid state at room temperature. As a result, it is not necessary to melt, such as by heating, the oil or fat before adding the oil or fat to the medium for producing a copolyester comprising at least 3-hydroxybutyric acid and hydroxyhexanoic acid as monomeric units by a microorganism when the oil or fat containing lauric acid in constituent fatty acids at the low amount as recited in the claims is used as the carbon source under a condition in which phosphorus is restricted.

When coconut oil or palm kernel oil is used, the ratio of 3-hydroxyhexanoic acid becomes high because of its high content of lauric acid, but the productivity of poly (3-hydroxybutyrate-co-3-hydroxyhexanoate) is lower than when palm kernel olein oil is used. As shown in Examples 1-3 and Tables 1-3 of the instant specification, when palm kernel olein oil is used as the carbon source, productivity of poly (3-hydroxybutyrate-co-3-hydroxyhexanoate) is extremely high (not less than 60 g/L), compared to that when coconut oil or palm kernel oil is used, an effect which is unexpected.

Conclusion

Applicants contend that the application is in a condition for allowance. A Notice of Allowance is believed in order.

The Examiner is invited to contact the undersigned at 202-220-4200 to discuss any matter in connection with this application.

In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Office is hereby authorized to charge any fees that may be required under 37 C.F.R. 1.16 and 1.17, as related to the filing of this paper, to Deposit Account No. 11-0600.

Respectfully submitted,

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